

**REMARKS**

Claims 1-9 and 11-12 are all the claims pending in the application. Claim 1 has been amended to recite "removing the 1,4-dihydropyridine derivative from the resin composition after formation of the optical path" for purposes of clarity.

Entry of the above amendments is respectfully requested.

**I. Response to Rejection of claims 1-9 and 11-12 under 35 U.S.C. § 103(a)**

Claims 1-9 and 11-12 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Yoshimura et al. (US 5,854,868) in view of Fujii et al. (US 6,300,037).

Applicants respectfully traverse the rejection.

Basically, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to modify the method of Yoshimura to include 1,4-dihydropyridine derivative as a photosensitive polymer as taught by Fujii to make the more sensitive to light, decreasing the curing time of the application of light. In addition, the Examiner asserts that both references are concerned with photosensitive resin compositions used for bonding.

Further, the Examiner asserts that Yoshimura teaches photosensitive polymer removal, specifically, that after formation of the waveguide by RIE, the resist is peeled off. *See* col. 2, lines 49-50. The Examiner notes that the resist is the non-irradiated (unexposed) material. Also, the Examiner asserts that Fujii discloses that a film was exposed to light, then areas were treated to dissolve and remove the unexposed areas of the film, leaving the polyimide resin precursor (col. 6, lines 44-51).

Applicants respectfully disagree.

It is respectfully submitted that Yoshimura and Fujii both disclose removal of (a part of) a film *per se*. For example, Fujii discloses removal of unexposed areas of a film. *See e.g.*, col. 6, lines 34-51.

In contrast, claim 1 recites the removal of a specific compound (i.e., 1,4-dihydropyridine derivative) from a resin composition as opposed to the removal of a film. Thus, the claimed "removing" step is literally and technically distinct fundamentally from the "removal" disclosed in the cited references. Thus, neither of the cited references teaches or suggests the claimed step, and the present invention according to claim 1 is not rendered obvious by the cited references, even if they were somehow combined.

In addition, claims 2-9 and 11-12 depend from claim 1, and thus, it is respectfully submitted that these claims are patentable for at least the same reasons as claim 1.

In view of the above, withdrawal of the rejection is respectfully requested.

**II. Response to Rejection of Claims 1-9 and 11-12 under 35 U.S.C. § 112, second paragraph**

Claims 1-9 and 11-12 are rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants respectfully traverse the rejection.

The Examiner asserts that the limitation "removing the 1,4-dihydropyridine derivative from the resulting resin composition" is unclear as to whether the 1,4-dihydropyridine derivative is removed from the light exposed or unexposed resin. In addition, the Examiner asserts that the term "resulting resin" is unclear as to whether it is the light exposed and/or unexposed resin.

To meet the requirements of § 112, second paragraph, the claims must be sufficiently definite for one to reasonably determine their scope. MPEP § 706.03(d).

It is respectfully submitted that, as currently written, the limitations of claim 1 are definite. For example, the specification provides the following disclosure:

"The 1,4-dihydropyridine derivative in the part where light has passed to form an optical path 8 undergoes structural change into a substance that is hardly removed in the subsequent step of removal described below." (Third paragraph in page 24)

"The 1,4-dihydropyridine derivative does not always need to be removed completely. It suffices that the 1,4-dihydropyridine derivative is removed to such a degree as to result in a sufficient difference in refractive index between the irradiated and the non-irradiated parts of the resin composition for forming an optical waveguide." (Second paragraph in page 27)

The light irradiation is a means to give a difference in the removability of the 1,4-dihydropyridine derivative. Thus, the part from which the 1,4-dihydropyridine derivative is to be removed is not limited to either the irradiated area or the non-irradiated area. This can also be seen from the examples of the removing step, i.e., (a) extraction and (b) heating, in the specification.

Therefore, it is respectfully submitted that one of skilled in the art would be apprised of the scope of the invention and that the claims comply with §112, second paragraph.

Nonetheless, claim 1 has been amended to recite "removing the 1,4-dihydropyridine derivative from the resin composition after formation of the optical path" for purposes of further clarity.

In view of the above, withdrawal of the rejection is respectfully requested.

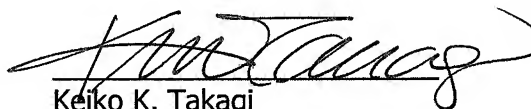
### **III. Conclusion**

For the above reasons, reconsideration and allowance of claims 1-9 and 11-12 is respectfully requested.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Keiko K. Takagi  
Registration No. 47,121

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON DC SUGHRUE/265550

**65565**

CUSTOMER NUMBER

Date: October 9, 2007